

REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

A. SUMMARY OF THIS AMENDMENT

By the current amendment, Applicants basically:

1. Add new claim 21.
2. Respectfully traverse all prior art rejections.

B. THE PRIOR ART REJECTIONS

Claims 1-3, 4-7, 8, 10-12 and 14-16 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2002/0172208 to Malkamaki et al in view of U.S. 2002/0054578 to Zhang et al and further in view of U.S. Publication 2002/0048268 to Menon et al. Claims 9, 13 and 17-20 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2002/0054578 to Zhang et al in view of U.S. Publication 2002/0048268 to Menon et al. All prior art rejections are respectfully traversed for at least the following reasons.

C. PATENTABILITY OF THE CLAIMS

The technology of Applicants' specification addresses a problem of ensuring ensure a steady flow of data across a radio link in which data packets are transmitted over two cascaded radio links between user terminals. Jitter introduced at a sending side of the pair of cascaded links will give rise not only to jitter at the receiving side, but also to a potential premature draining of the receiving side buffer. Applicants address these and other problems by disabling an in-sequence delivery option of packets.

In rejecting Applicants' claims the office action particularly refers to paragraph [0012] of Malkamaki. The office action may have highlighted this paragraph because Applicants previously demonstrated that neither US 2002/0054578 (referred to as Zhang)

nor US 2002/0048268 (referred to as Menon) disclosed disabling an in-sequence delivery option of packets.

Despite its citation in the office action, paragraph [0012] of Malkamaki does not serve as a legitimate basis for denying patentability of Applicants' claims. Malkamaki discloses in paragraph [0012] that "it is advantageous for either MAC-hs to provide in-sequence delivery of the RLC-PDUs of a message or for the RLC layer to be modified to support out of sequence delivery of RLC-PDUs". In other words, Malkamaki makes a casual reference to an out of sequence delivery option of packets. Applicants, on the other hand, are concerned with disabling an in-sequence delivery option for a packet switched session in the case of a combinational multi-media session which involves not only the packet switched session, but also a circuit switched session.

As mentioned above, Applicants' have recognized that jitter (caused by delaying the sending of packets from the sending side) may cause under-utilization of the radio resources at the receiving side. This problem does not appear to be addressed by Malkamaki. As described in paragraph [0016] of Malkamaki, the problem addressed by Malkamaki is that of guaranteeing in-sequence delivery of packets to the RLC layer by the MAC-hs layer.

The rejection of claim 1 relies on a three-way combination of Malkamaki; US2002/054578 (referred to as Zhang); and US 2002/0048268 (referred to as Menon). Each of these three documents addresses problems which are completely different than that addressed by Applicants. Indeed, none of these three applied documents consider the issue of under-utilization of radio resources at the receiving side being caused by delaying the sending of packets from the sending site. The person skilled in the art would not look to any of these three documents separately, nor would he then combine them in such a way as to address the problem addressed by Applicants.

Claims 8 to 12 address a problem caused by the Transmission Control Protocol (TCP) which uses a slow start mechanism. TCP defines a window which restricts the number of unacknowledged IP packets which can be in transit at any given time. The window size is increased as acknowledgements are received, and is decreased if no acknowledgements are received for some specified period. The rate at which the window is increased depends on the ACKs received and sent from the receiver. If the ACKs are delayed, the slow start period is prolonged. During slow start, TCP cannot fully utilize a given radio link which means that transfer times for multi-media content such as pictures increases. In the example where a combinational multi-media session involving circuit switched (CS) and packet switched (PS) sessions involves sending pictures which are relatively small in size, say between 3 and 50k B, the TCP will mostly be operating in the slow start phase for the period that it takes to send the picture, thereby increasing the time it takes to transmit a picture. The technology of claim 8 addresses this problem by setting a TCP sending parameter at the sending user terminal for the packet switched session so as to optimize radio resource usage. The TCP parameter is different from parameters used for non-combinational multi-media session related packet traffic. In other words, one window size is used when combinational multi-media packets traffic is sent, and another window size is used for non-combinational multi-media session related packet traffic.

The office action alleges that Malkamaki paragraph [0012] discloses features of claim 8. According to the office action, Malkamaki teaches different parameters for optimizing radio resource usages. However, the parameter referred to by Malkamaki is a hybrid automatic repeat request (HARQ). Menon simply mentions TCP protocols without linking them to the slow-start problem. The office action considers that it is obvious to combine Menon and Malkamaki to come up with the present invention. But it appears that the office action fails to comprehend completely the problem here. Malkamaki does not refer to combinational multi-media sessions, and so the problems of TCP slow start when using a combinational multi-media session would not arise according to the

teaching of Malkamaki. There is therefore no motivation for the skilled person to combine the disclosures of Menon and Malkamaki, as a combination of these documents would not lead to the present invention of claim 8 in which one TCP parameter is set for combinational multimedia session packet transfer, and a different TCP parameter is set for non-combinational multimedia session packet transfer in order to overcome the problems of a TCP slow start mechanism. Furthermore, the problem arising from a slow-start mechanism would not occur in either of Menon or Malkamaki, and so the skilled person would not combine these documents to arrive at Applicants' claims.

D. MISCELLANEOUS

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly requested.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /H. Warren Burnam, Jr./

H. Warren Burnam, Jr.
Reg. No. 29,366

HWB:lsh
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100